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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: : Docket No: Q80691
Hajime Nakao, et al. : Group Art Unit: 1752
Appn. No.: 10/809,389 : Examiner: Walke, Amanda C
Filed: March 26, 2004 :
For: POSITIVE RESIST COMPOSITION

DECLARATION UNDER 37 C.F.R. §1.132

Commissioner for Patents
Alexandria, VA 22313-1450

Sir:

I, Fumiyuki Nishiyama, do declare and state as follows:

I am a citizen of Japan.

I graduated from Hokkaido University, Faculty of Science, Course of physics in March 1989.

Since April 1989 I have been employed by Fuji Photo Film Co., Ltd. and have been engaged in research and development of photoresist photosensitive materials for semiconductors at the Yoshida-Minami Factory Research Division of the company.

I am familiar with the subject matter disclosed by the application as well as the Office Action dated September 13, 2005 concerning the application.

In order to demonstrate the unexpected superiority of the present invention, the following experimentation was conducted by me or under my supervision.

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EXPERIMENTATION

The Applicants synthesized the resins for Comparative Examples, according to synthetic method disclosed in the cited references. Then various physical properties were confirmed based on the present specification.

(1) Synthesis of the resins in the cited documents:

Resins A and B (as indicated below) were synthesized according to the synthetic method disclosed in the cited documents, independently.

Resin A: Resin (14) of Kodama (EP 1 179 750 A1):

Resin B: Resin (4) of Sato (US 6,787,282 B2)

(2) Tg measurement result for the above-cited Resins A and B:

Tg was measured according to the method as shown in the present specification. The results thereof were indicated as below.

Resin A: Tg=169°C

Resin B: Tg=161°C

From the above results, the aforementioned resins do not fall under the resin defined by the present invention.

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In addition, the following Comparative Experiments were conducted. The compositions used for Comparative Examples were indicated in the following Table A.

Table A

Supplementary Comparative Example	Resin	PAG	Basic Compound	Surfactant	Solvent
1	A	z6	N-4	W-1	SL-1/SL-6 = 60/40
2	B	z6	N-4	W-1	SL-1/SL-6 = 60/40

* The symbol (except resin) for each component is same as that in the present specification.

Following Table B shows results of the Comparative Examples as above. (Evaluation method being same as described in the present specification)

Table B

Supplementary Comparative Example	LER	DOF
1	14.1	0.10
2	13.8	0.15

From the results above, no performance improvement can be attained even with use of a resin whose Tg is outside the scope of the requirement for the

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present invention and a mixed solvent.

In contrast, in view of Examples 1 to 17 of the present invention, it is evident that a specific effect can be attained with a composition containing the polymer having a specific structure and a specific solvent provided that the Tg of the polymer is in the specified range.

Accordingly, the present invention has novelty and is not obvious over the cited documents.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 01/10/2006

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